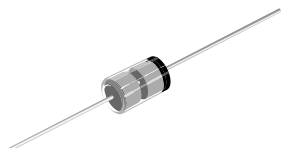


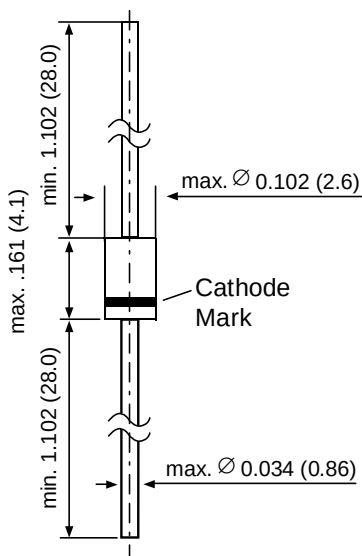
## Zener Diodes

**V<sub>Z</sub> Range** 100 to 180V

**Power Dissipation** 1.3W



### DO-204AL (DO-41 Glass)



Dimensions in inches and (millimeters)

### Features

- Silicon Planar Zener Diodes
- For use in stabilizing and clipping circuits with higher power rating.
- The Zener voltages are graded according to the international E 12 standard. Smaller voltage tolerances are available upon request.
- These diodes are also available in MELF case with the type designation ZMU100 ... ZMU180.

### Mechanical Data

**Case:** DO-41 Glass Case

**Weight:** approx. 0.35g

**Packaging Codes/Options:**

D9/5K per 13" reel (52mm tape), 10K/box

E1/5K per Ammo mag. (52 mm tape), 10K/box

### Maximum Ratings and Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Parameter                                    | Symbol           | Value              | Unit |
|----------------------------------------------|------------------|--------------------|------|
| Zener Current (see Table "Characteristics")  |                  |                    |      |
| Power Dissipation at T <sub>amb</sub> = 25°C | P <sub>tot</sub> | 1.3 <sup>(1)</sup> | W    |
| Thermal Resistance Junction to Ambient Air   | R <sub>θJA</sub> | 130 <sup>(1)</sup> | °C/W |
| Junction Temperature                         | T <sub>j</sub>   | 175                | °C   |
| Storage Temperature Range                    | T <sub>s</sub>   | -55 to +175        | °C   |

#### Notes:

(1) Valid provided that leads at a distance of 10mm from case are kept at ambient temperature.

### Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

| Type   | Zener Voltage <sup>(2)</sup><br>at I <sub>ZT</sub> V <sub>Z</sub> (V) |      | Dynamic Resistance<br>at<br>I <sub>ZT</sub><br>f = 1kHz<br>r <sub>Zj</sub> (Ω) | Temp. Coeff. of<br>Zener Voltage at I <sub>ZT</sub><br>α <sub>VZ</sub> (10 <sup>-4</sup> /°C) |      | Test current<br>I <sub>ZT</sub> (mA) | Reverse<br>Voltage<br>at<br>I <sub>R</sub> = 0.5μA<br>V <sub>R</sub> (V) | Admissible<br>Zener current <sup>(1)</sup><br>at<br>T <sub>amb</sub> = 25°C<br>I <sub>Z</sub> (mA) |
|--------|-----------------------------------------------------------------------|------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------|--------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|        | Min.                                                                  | Max. |                                                                                | Min.                                                                                          | Max. |                                      |                                                                          |                                                                                                    |
| ZPU100 | 88                                                                    | 110  | 140 (< 300)                                                                    | +9                                                                                            | +13  | 5                                    | > 75                                                                     | 10                                                                                                 |
| ZPU120 | 107                                                                   | 134  | 170 (< 330)                                                                    | +9                                                                                            | +13  | 5                                    | > 90                                                                     | 8.5                                                                                                |
| ZPU150 | 130                                                                   | 165  | 200 (< 360)                                                                    | +9                                                                                            | +13  | 5                                    | > 112                                                                    | 7                                                                                                  |
| ZPU180 | 160                                                                   | 200  | 220 (< 380)                                                                    | +9                                                                                            | +13  | 5                                    | > 134                                                                    | 5.5                                                                                                |

#### Notes:

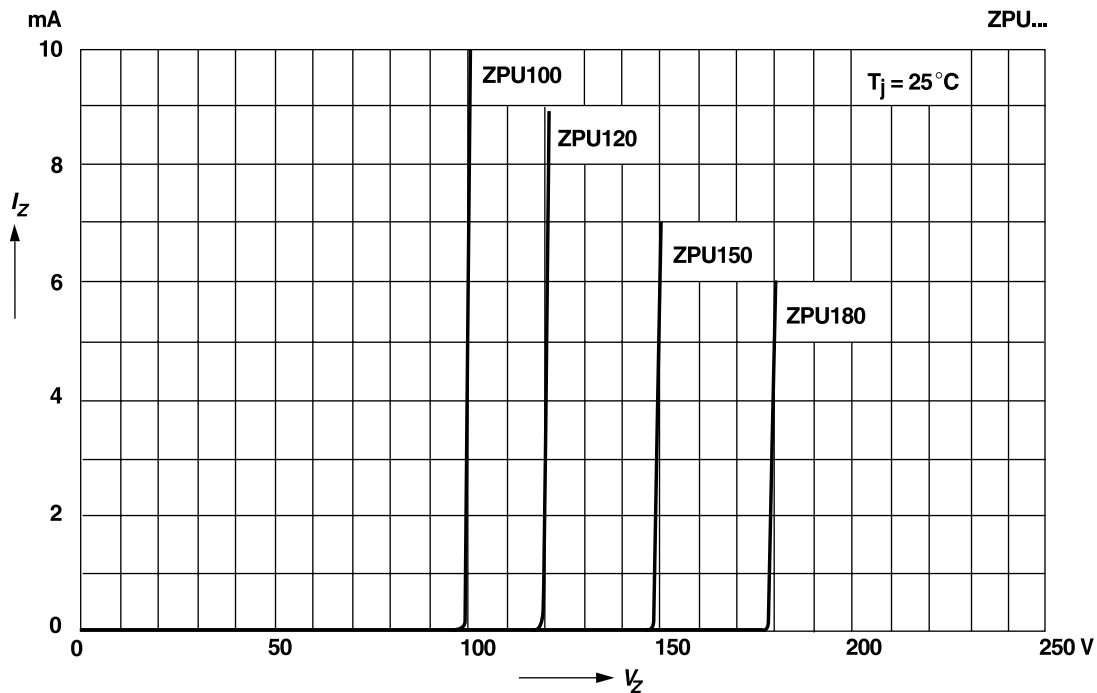
(1) Valid provided that leads are kept at ambient temperature at a distance of 10mm from case

(2) Tested with pulses t<sub>p</sub> = 5ms

### Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

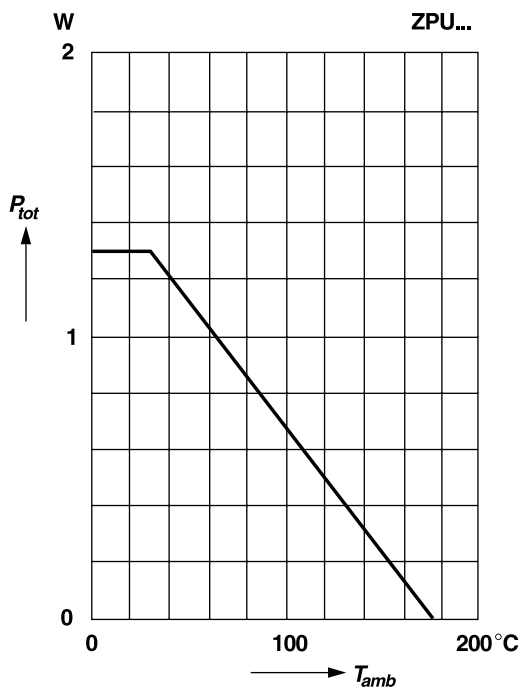
#### Breakdown characteristics

$T_j = \text{constant (pulsed)}$



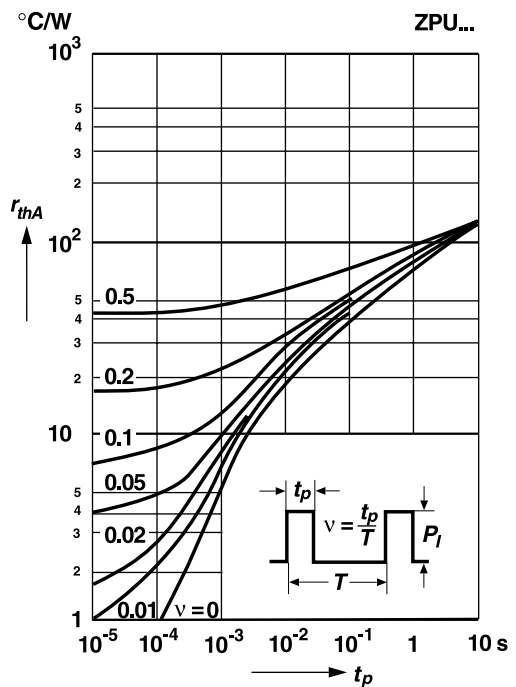
#### Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case



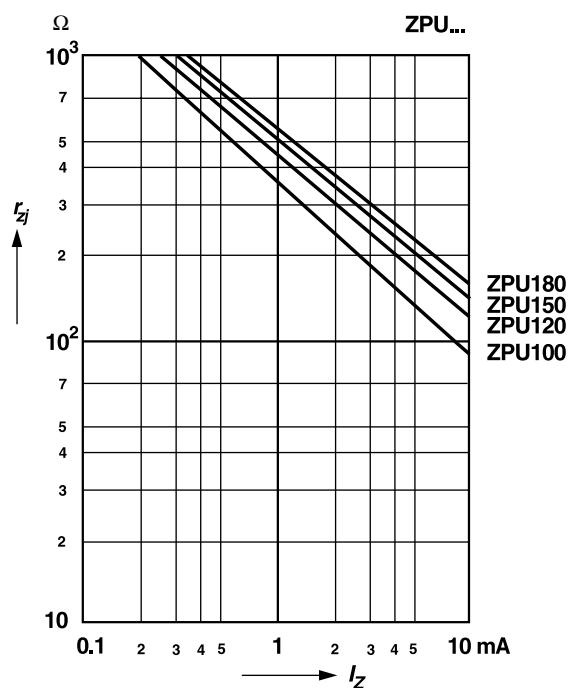
#### Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.



### Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

Dynamic resistance  
versus Zener current



Thermal resistance  
versus lead length

